

## WHAT IS CLAIMED IS:

1. An article, comprising,
  - (a) a surface on said article for supporting a coating,
  - (b) undercut grooves defined by said article depending beneath said surface to a bottom portion, said grooves having an upper width on said surface and a lower width on said bottom portion connected by side walls, where at least one of said side walls connects said upper width and said lower width to form an undercut angle with said surface less than  $90^\circ$ ,
  - (c) said coating filling said undercut grooves, thereby creating weak paths within said coating, and
  - (e) said coating ranging above said surface with a coating thickness from about 0.1 to 50 mm.
2. The article of claim 1 where said undercut grooves comprise:
  - (a) a depth corresponding to a range from about 0.1 – 1 times said coating thickness,
  - (b) said lower width having a range of about 0.1-100 times said depth,
  - (c) said upper width having a range of about 0.1-100 times said depth, and
  - (d) said undercut angle having a range from about 30 degrees to less than 90 degrees.
3. The article of claim 1 where said undercut grooves are in parallel alignment.
4. The article of claim 3 where said undercut grooves are spaced apart from centerline to centerline by a distance corresponding to a range of about 0.5-100 times said depth.

5. The article of claim 1 where said undercut grooves include a raised center within said bottom portion that serves to direct said coating along said bottom portion.
6. A method for applying a protective coating on an article, comprising the following steps in the order named:
  - (a) selecting an article with a surface for applying a coating thickness of said protective coating,
  - 5 (b) creating undercut grooves on said article, where said grooves depend beneath said surface to a bottom portion, said grooves having an upper width on said surface and a lower width on said bottom portion connected by side walls, where at least one of said side walls connects said upper width and  
10 said lower width to form an undercut angle with said surface less than 90°, and
  - (c) applying said protective coating onto said article to fill said undercut grooves and cover said surface thereby forming weak paths within said protective coating.
7. The method of claim 6 where said undercut grooves are created with a depth corresponding to a range from about 0.1 – 1 times said coating thickness, said lower width having a range of about 0.1-100 times said depth, said upper width having a range of about 0.1-100  
5 times said depth, and said undercut angle having a range from about 30 degrees to less than 90 degrees.
8. The method of claim 6 further including sintering of said article to strengthen said protective coating.